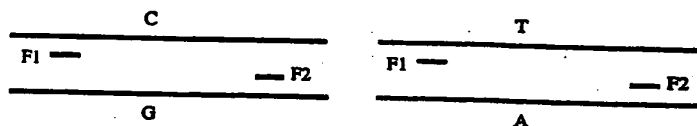
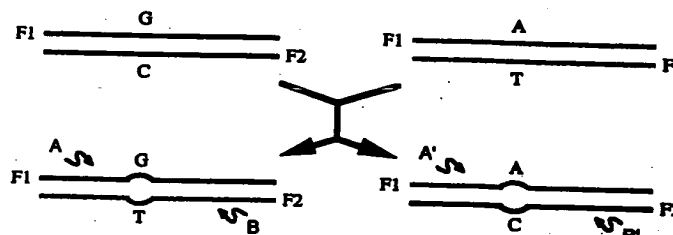


Mismatch scanning Assay. (Endo V / DNA Ligase)

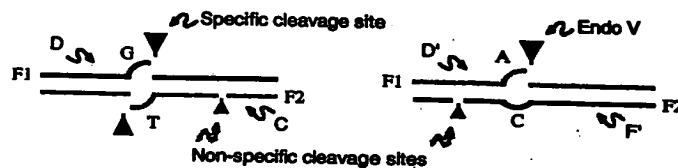
1. PCR amplify gene using primers with different fluorescent labels and *Taq* DNA polymerase.



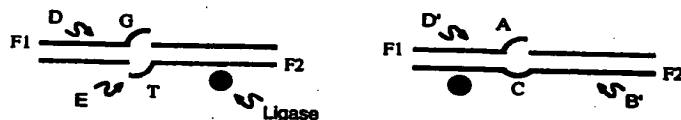
2. Denature and reanneal PCR products to form heteroduplexed DNA. (Homoduplexed products not shown).



3. Preferentially nick DNA one base to the 3' side of mismatches using thermostable Endonuclease V.



4. Add thermostable ligase to re-seal background nicks at perfect match regions.



5. Separate fluorescent products on a DNA sequencer (using length standards) to approximate site of mismatch.

	1.	2.	3.
EndoV	-	+	+
Ligase	-	-	+

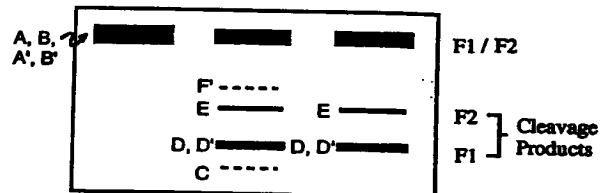


Figure 1

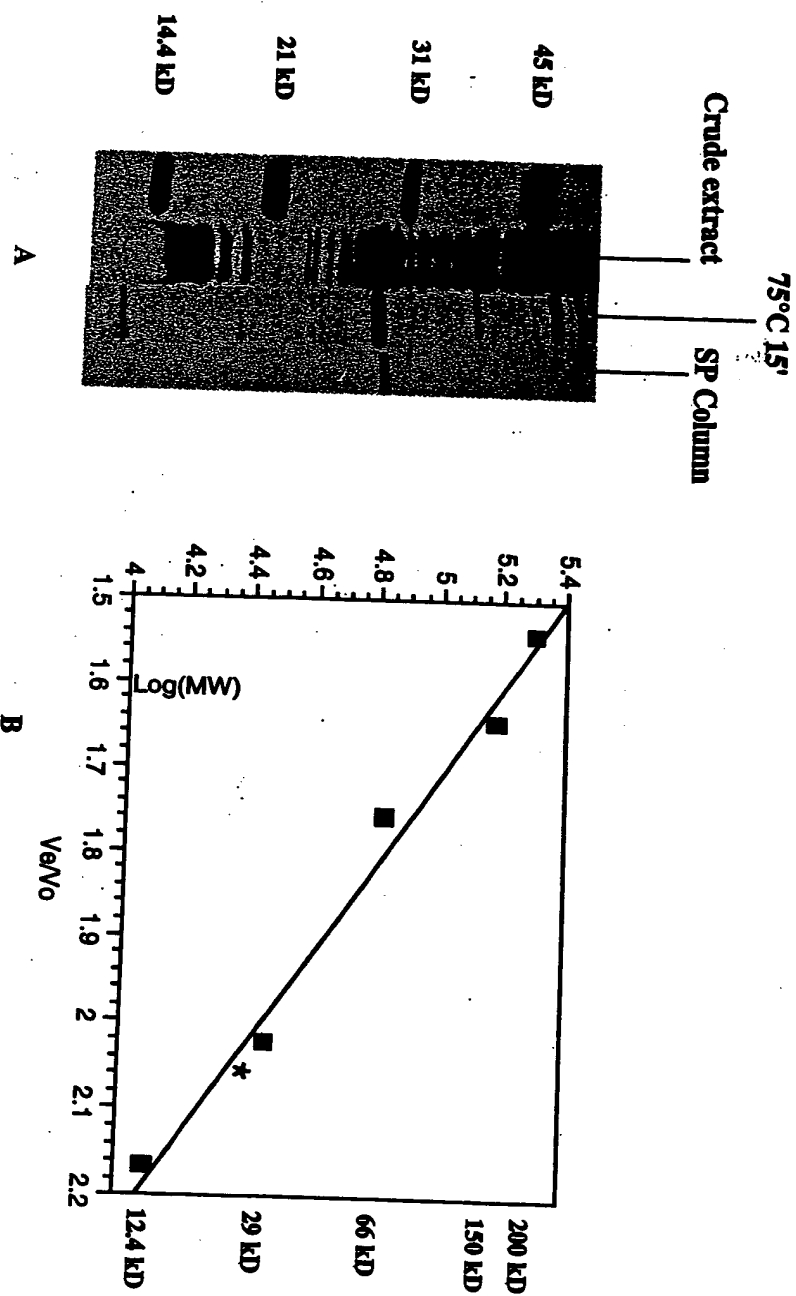
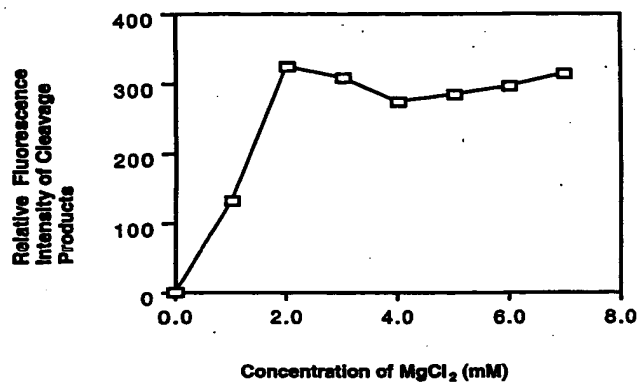


Figure 2

A



B

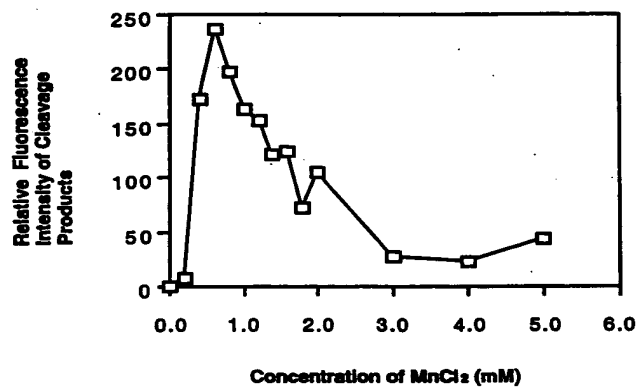


Figure 4

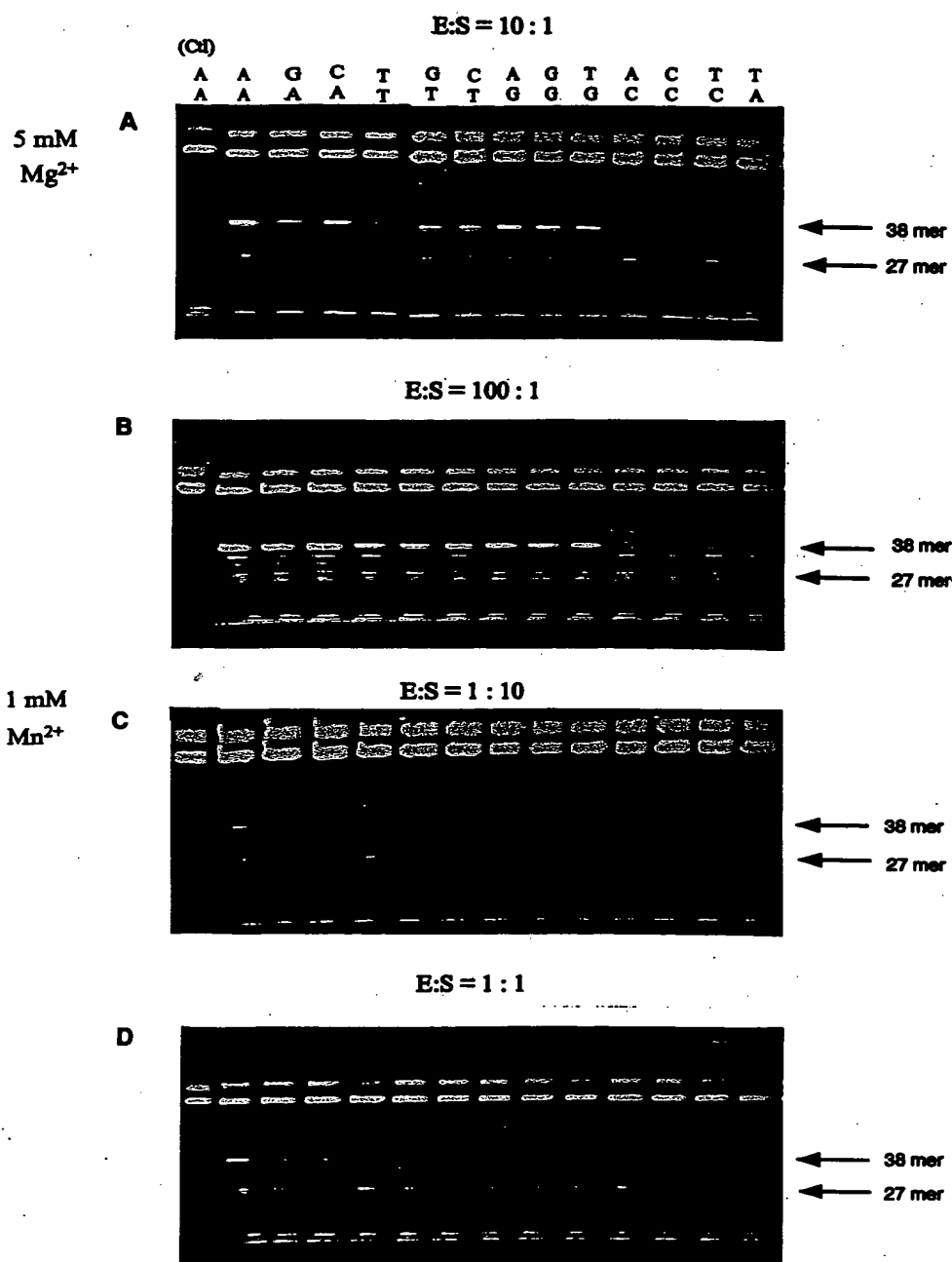


Figure 5

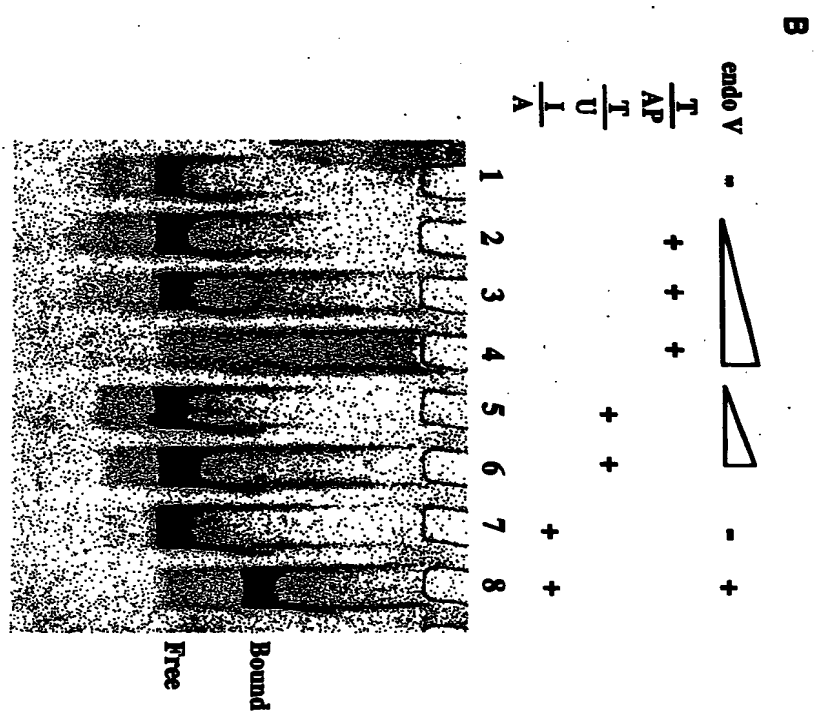
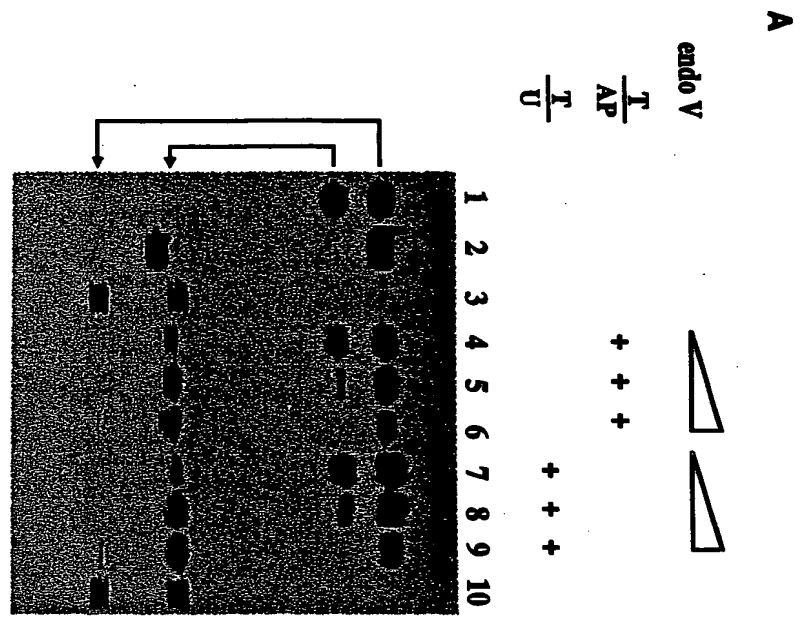


Figure 6

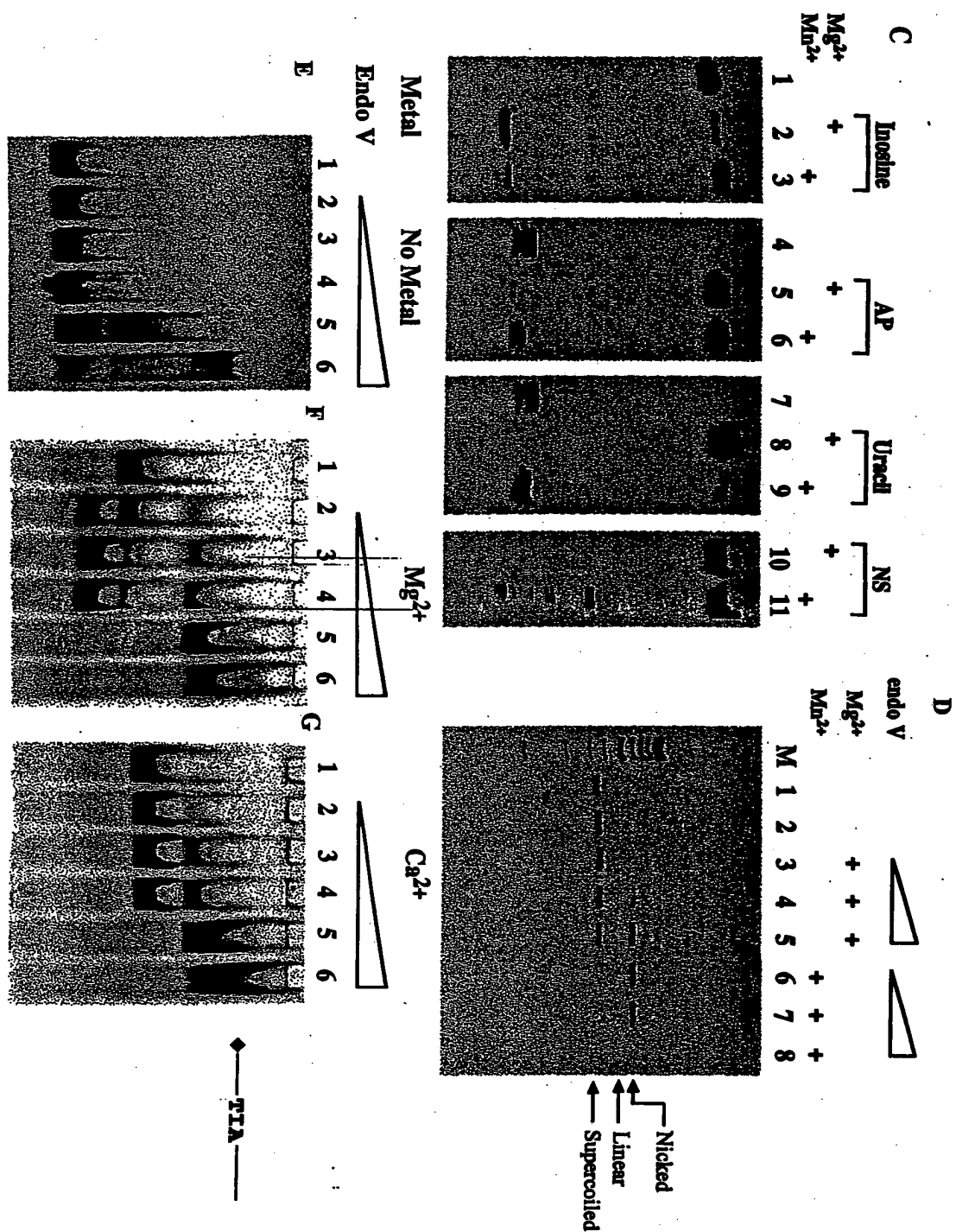


Figure 6 (cont.)

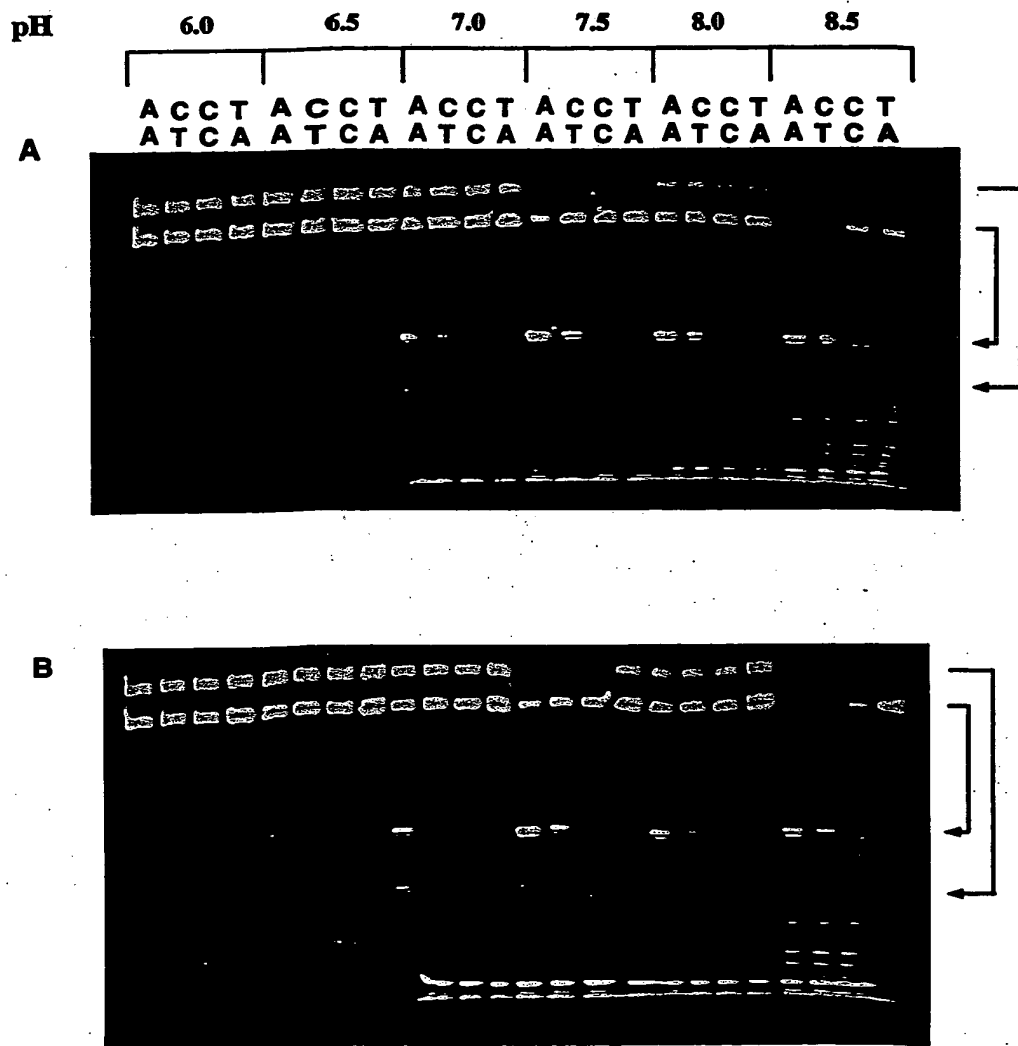


Figure 7

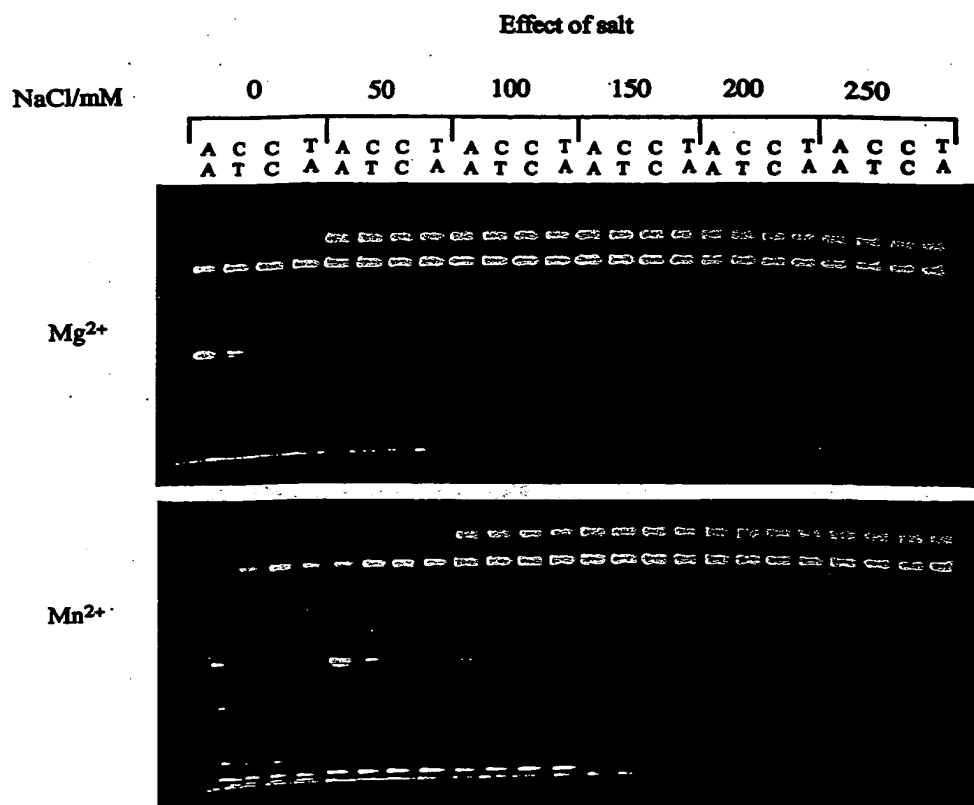


Figure 8

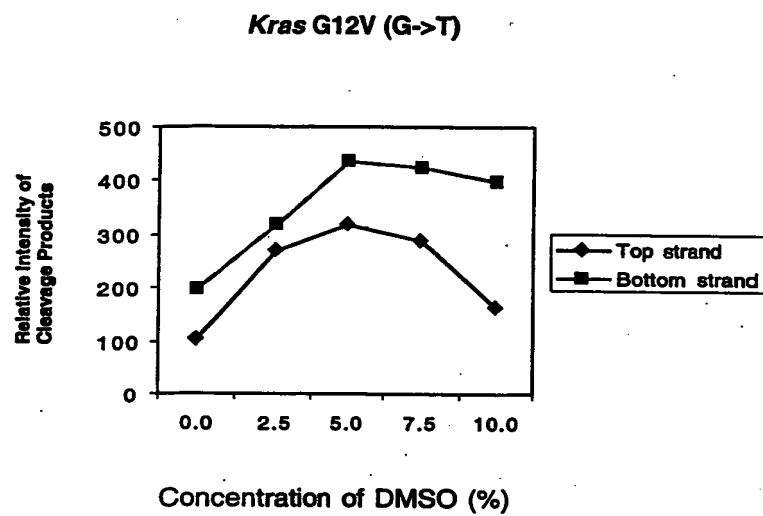
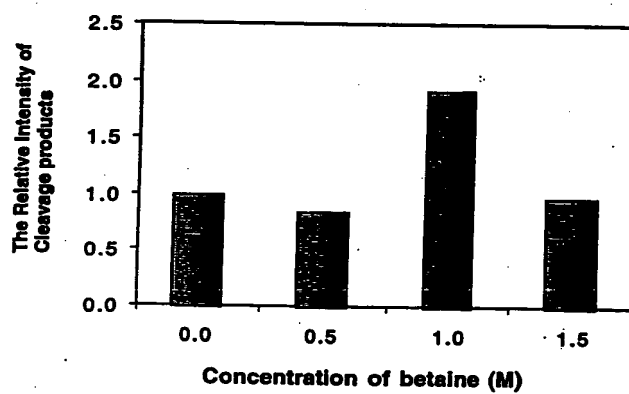


Figure 9

A

APC I1307K(T->A)



B

Kras G12V (G->T)

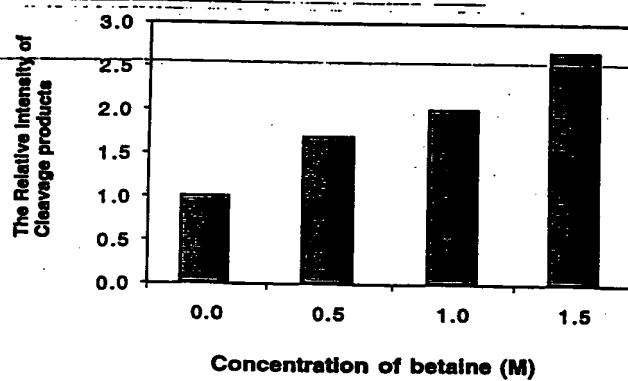
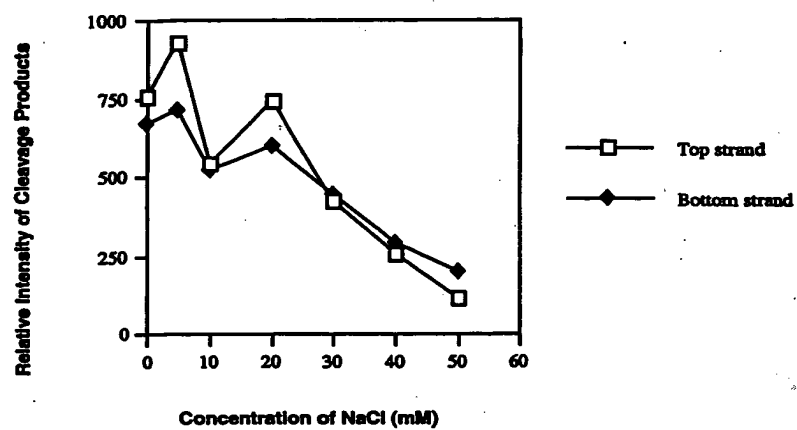


Figure 10

k-ras G12V (G→T)

A



B

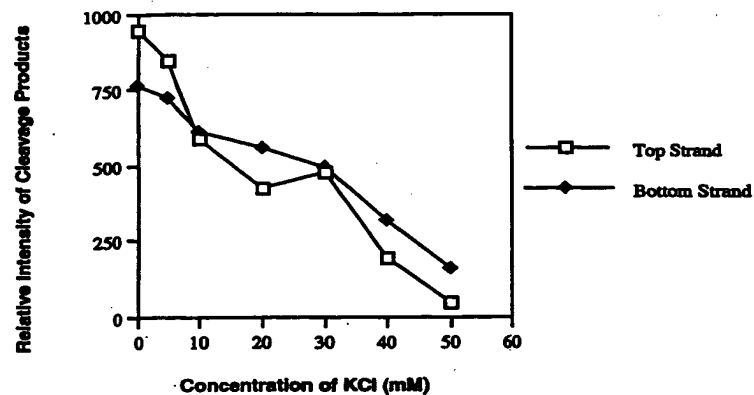


Figure 11

***k-ras* G12D (G→A)**

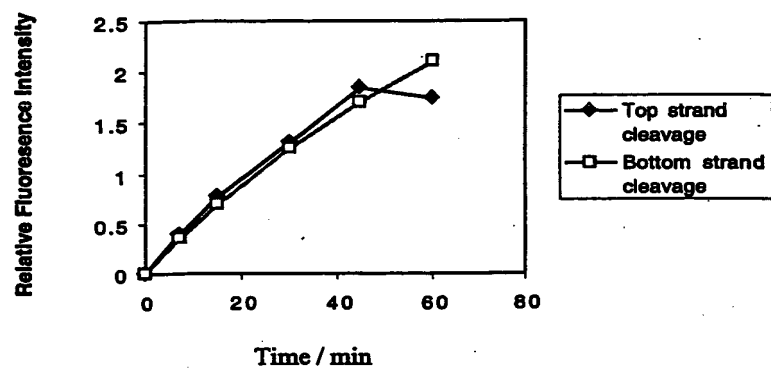


Figure 12

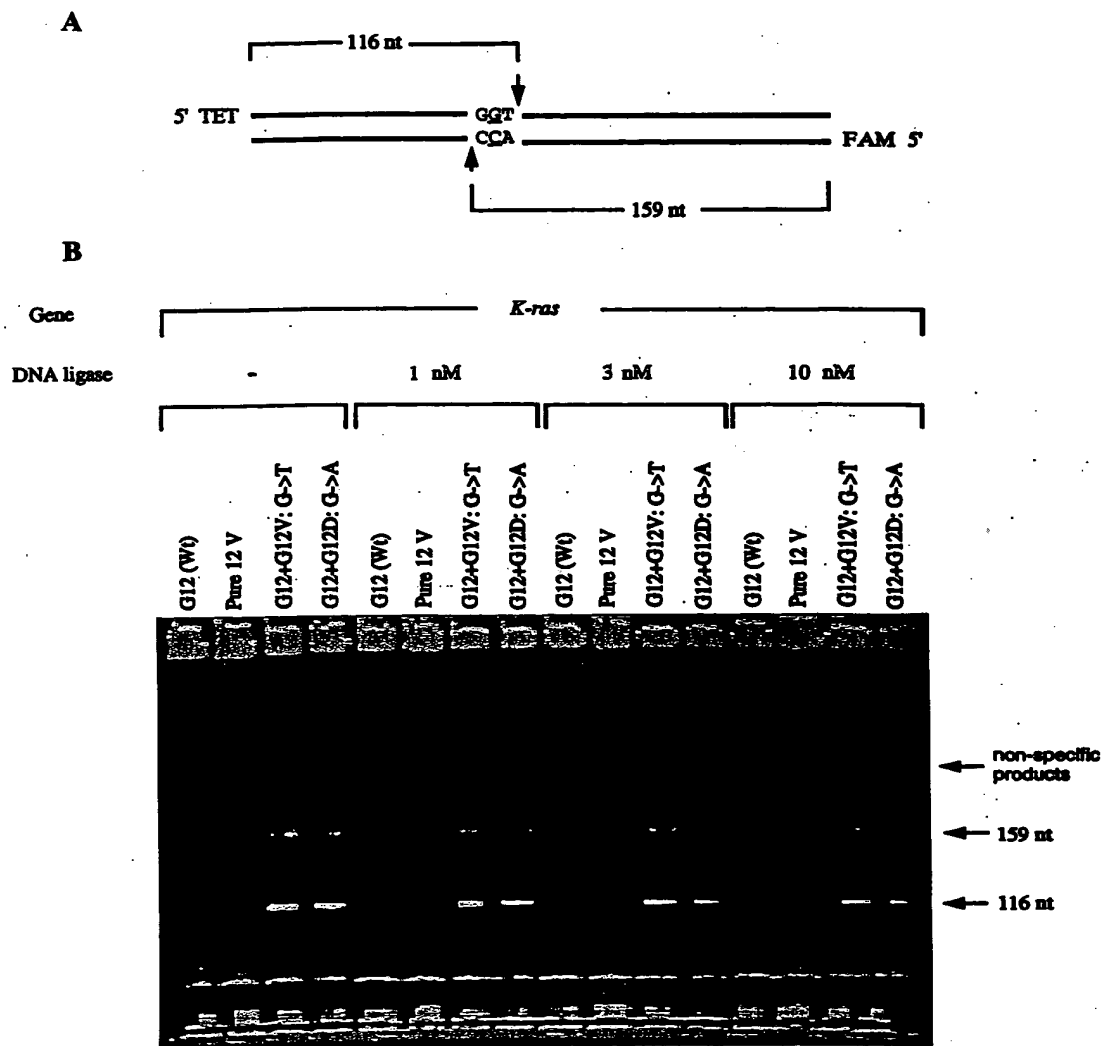


Figure 13

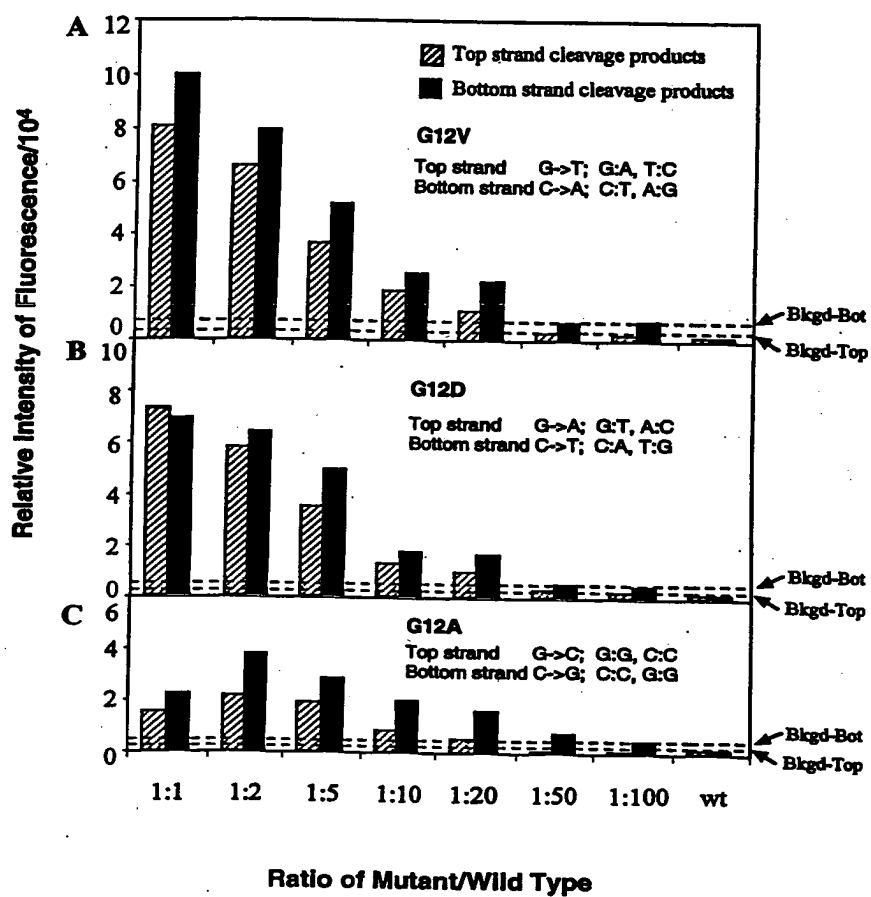


Figure 14

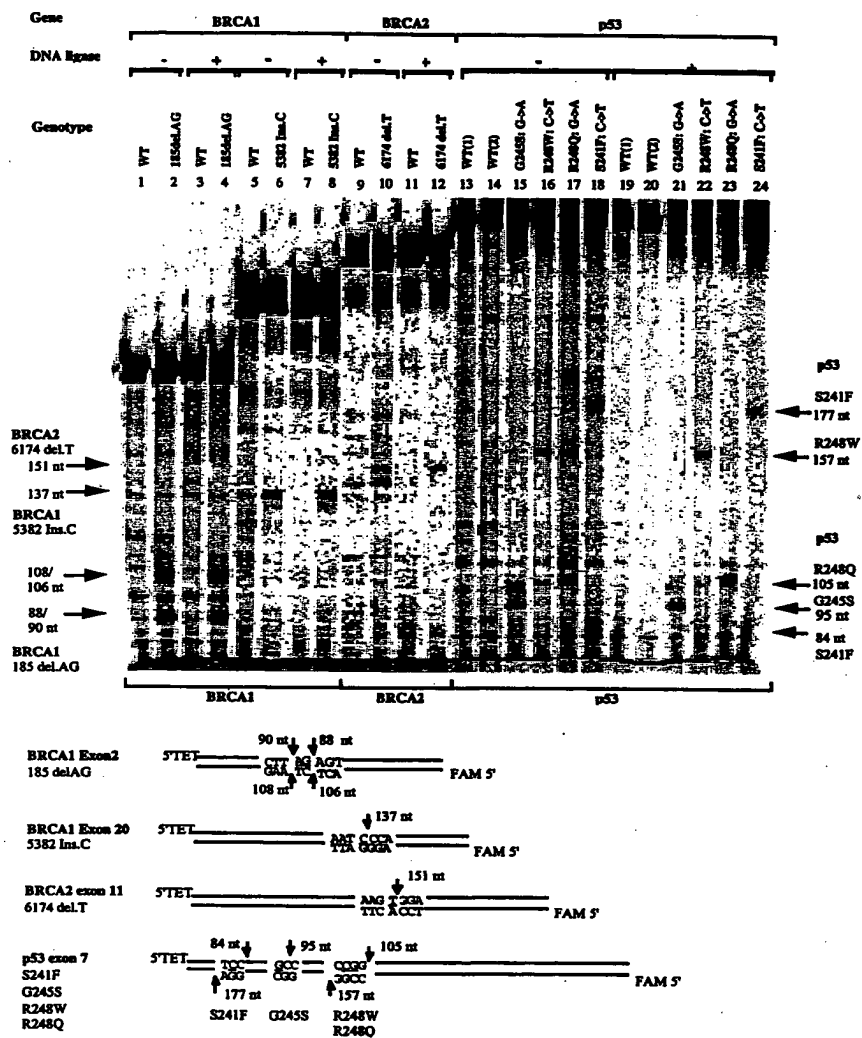


Figure 15

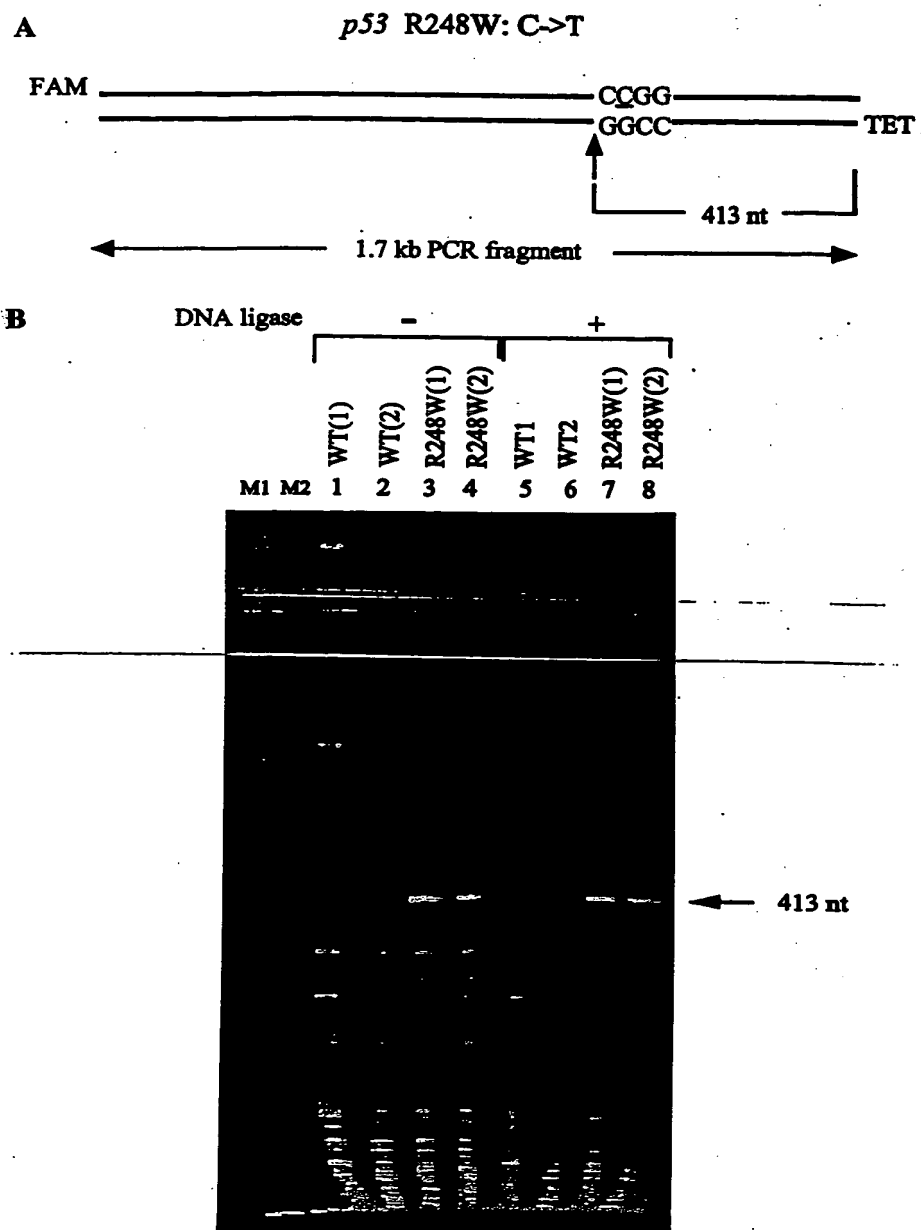
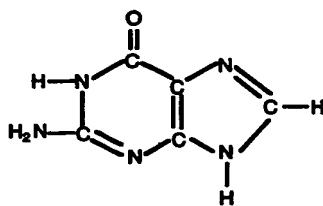


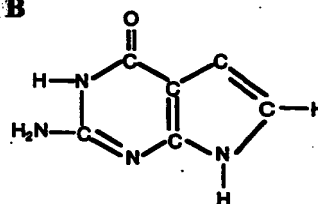
Figure 16

A



Guanine

B



7-deaza-Guanine

C

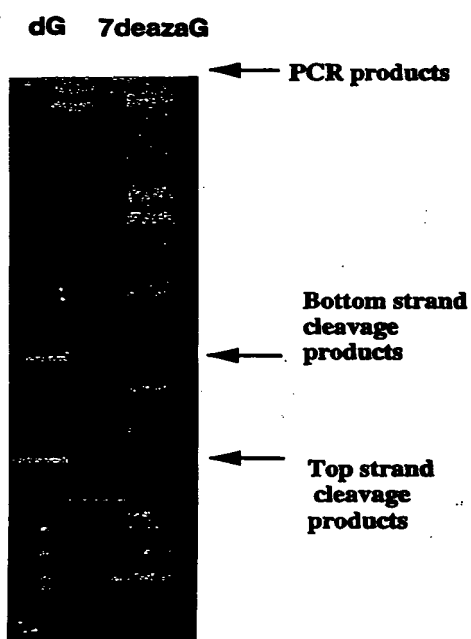


Figure 17

A

p53 R248W(C->T)

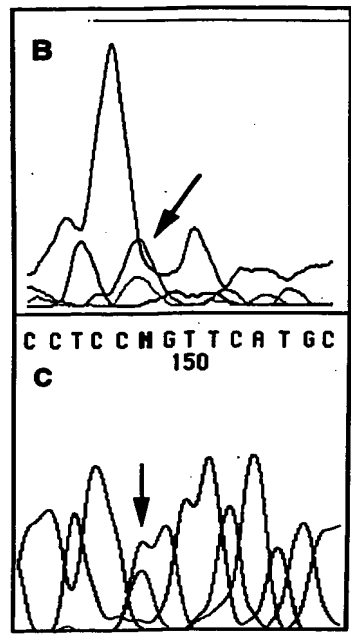
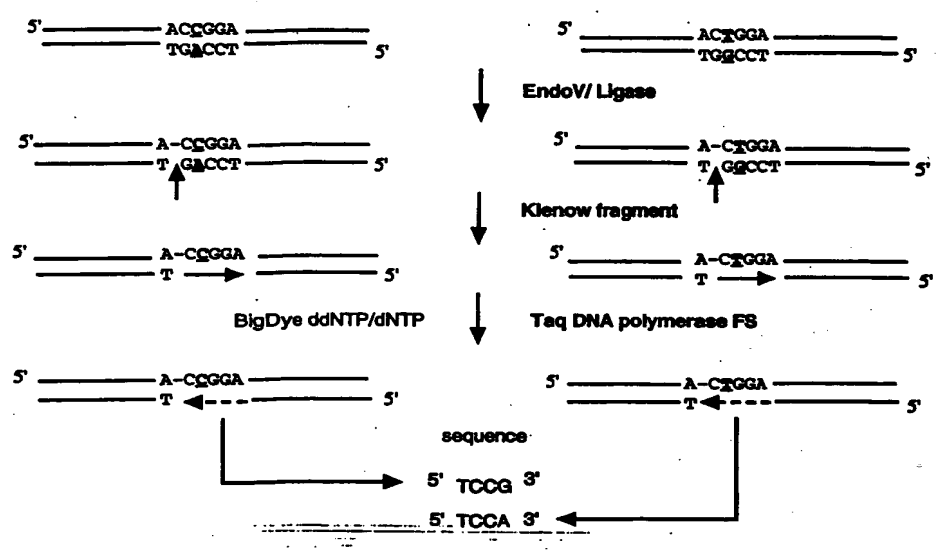


Figure 18

	70	80	90	100	Majority
69	TKVAVGRVSFP	IP	GLAF	IP	PIAAVKKISEEPOVVL
74	VVSERGEITFP	IP	GLLAF	IP	GLLAF
75	VVSERGEITFP	IP	GLLAF	IP	GLLAF
56	IKVLEITFP	IP	GLLAF	IP	GLLAF
55	IKVLEITFP	IP	GLLAF	IP	GLLAF
60	IKVLEITFP	IP	GLLAF	IP	GLLAF
63	IKVLEITFP	IP	GLLAF	IP	GLLAF
32	IKVLEITFP	IP	GLLAF	IP	GLLAF
65	IKVLEITFP	IP	GLLAF	IP	GLLAF
63	IKVLEITFP	IP	GLLAF	IP	GLLAF
64	IKVLEITFP	IP	GLLAF	IP	GLLAF
75	IKVLEITFP	IP	GLLAF	IP	GLLAF
62	IKVLEITFP	IP	GLLAF	IP	GLLAF
75	IKVLEITFP	IP	GLLAF	IP	GLLAF

Block II

	120	130	140	Majority
109	YDGHGIAIP	RLGLASHIGILLGKPTIGVA	SRLCGT---	Majority
114	YDGHGIAIP	RLGLASHIGILLGKPTIGVA	SRLCGT---	Majority
94	YDGHGIAIP	RLGLASHIGILLGKPTIGVA	SRLCGT---	Majority
98	YDGHGIAIP	RLGLASHIGILLGKPTIGVA	SRLCGT---	Majority
103	YDGHGIAIP	RLGLASHIGILLGKPTIGVA	SRLCGT---	Majority
72	YDGHGIAIP	RLGLASHIGILLGKPTIGVA	SRLCGT---	Majority
105	YDGHGIAIP	RLGLASHIGILLGKPTIGVA	SRLCGT---	Majority
103	YDGHGIAIP	RLGLASHIGILLGKPTIGVA	SRLCGT---	Majority
104	YDGHGIAIP	RLGLASHIGILLGKPTIGVA	SRLCGT---	Majority
115	YDGHGIAIP	RLGLASHIGILLGKPTIGVA	SRLCGT---	Majority
102	YDGHGIAIP	RLGLASHIGILLGKPTIGVA	SRLCGT---	Majority
115	YDGHGIAIP	RLGLASHIGILLGKPTIGVA	SRLCGT---	Majority

Block III

Block IV

Figure 19 (cont.)

F--LED--GA--PLDGGEGGLGYVLRK-RCKPI--VSVG Majority		
150	159	170
146 FKMPEQKRCSTVLYDGEETIGCVTRKEGSAPIT		VSPG Thermotoga maritima
151 LID		VSPG Pyrobaculum aerophilum
152 LID		VSPG Pyrococcus horikoshii
153 LID		VSPG Pyrococcus abyssi
154 LID		VSPG Pyrococcus furiosus
155 LID		VSPG Archaeoglobus fulgidus
156 LID		VSPG Aeropyrum pernix
157 LID		VSPG Clostridium acetobutylicum
158 LID		VSPG Yersinia pestis
159 LID		VSPG Escherichia coli
160 LID		VSPG Bacillus subtilis
161 LID		VSPG Salmonella typhimurium
162 LID		VSPG Streptococcus coelicolor

Block V

HRLTDSALAIYQAL-ID--GYRLPEPTRLADALAK-R-- Majority		
190	200	210
185 HLMVDESSKRLIKAFITLP--GRRIPEPTRLAH--ITYQRLK		Thermotoga maritima
186 LITLLEQATVIRAI--LOEGGV--PPLRLAHELAN--		Pyrobaculum aerophilum
187 LITLLEQATVIRAI--LOEGGV--PPLRLAHELAN--		Pyrococcus horikoshii
188 LITLLEQATVIRAI--LOEGGV--PPLRLAHELAN--		Pyrococcus abyssi
189 LITLLEQATVIRAI--LOEGGV--PPLRLAHELAN--		Pyrococcus furiosus
190 LITLLEQATVIRAI--LOEGGV--PPLRLAHELAN--		Archaeoglobus fulgidus
191 LITLLEQATVIRAI--LOEGGV--PPLRLAHELAN--		Aeropyrum pernix
192 LITLLEQATVIRAI--LOEGGV--PPLRLAHELAN--		Clostridium acetobutylicum
193 LITLLEQATVIRAI--LOEGGV--PPLRLAHELAN--		Yersinia pestis
194 LITLLEQATVIRAI--LOEGGV--PPLRLAHELAN--		Escherichia coli
195 LITLLEQATVIRAI--LOEGGV--PPLRLAHELAN--		Bacillus subtilis
196 LITLLEQATVIRAI--LOEGGV--PPLRLAHELAN--		Salmonella typhimurium
197 LITLLEQATVIRAI--LOEGGV--PPLRLAHELAN--		Streptococcus coelicolor

Block VI

Figure 19 (cont.)

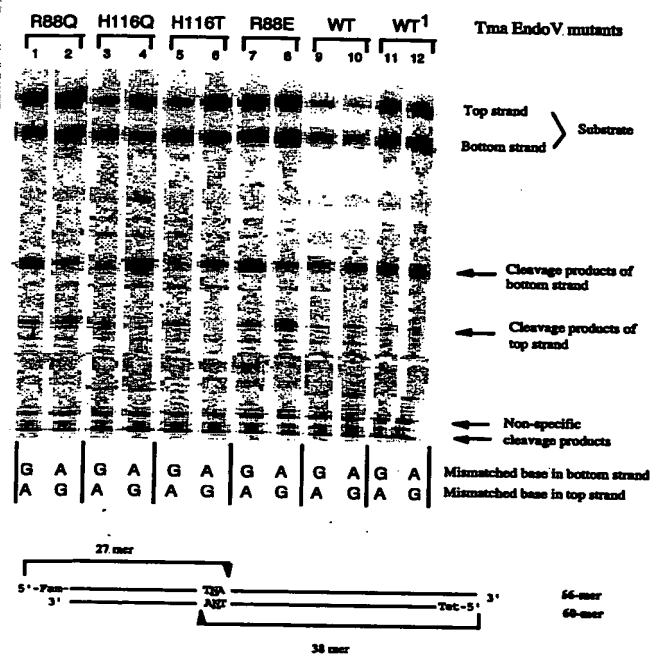


Figure 20

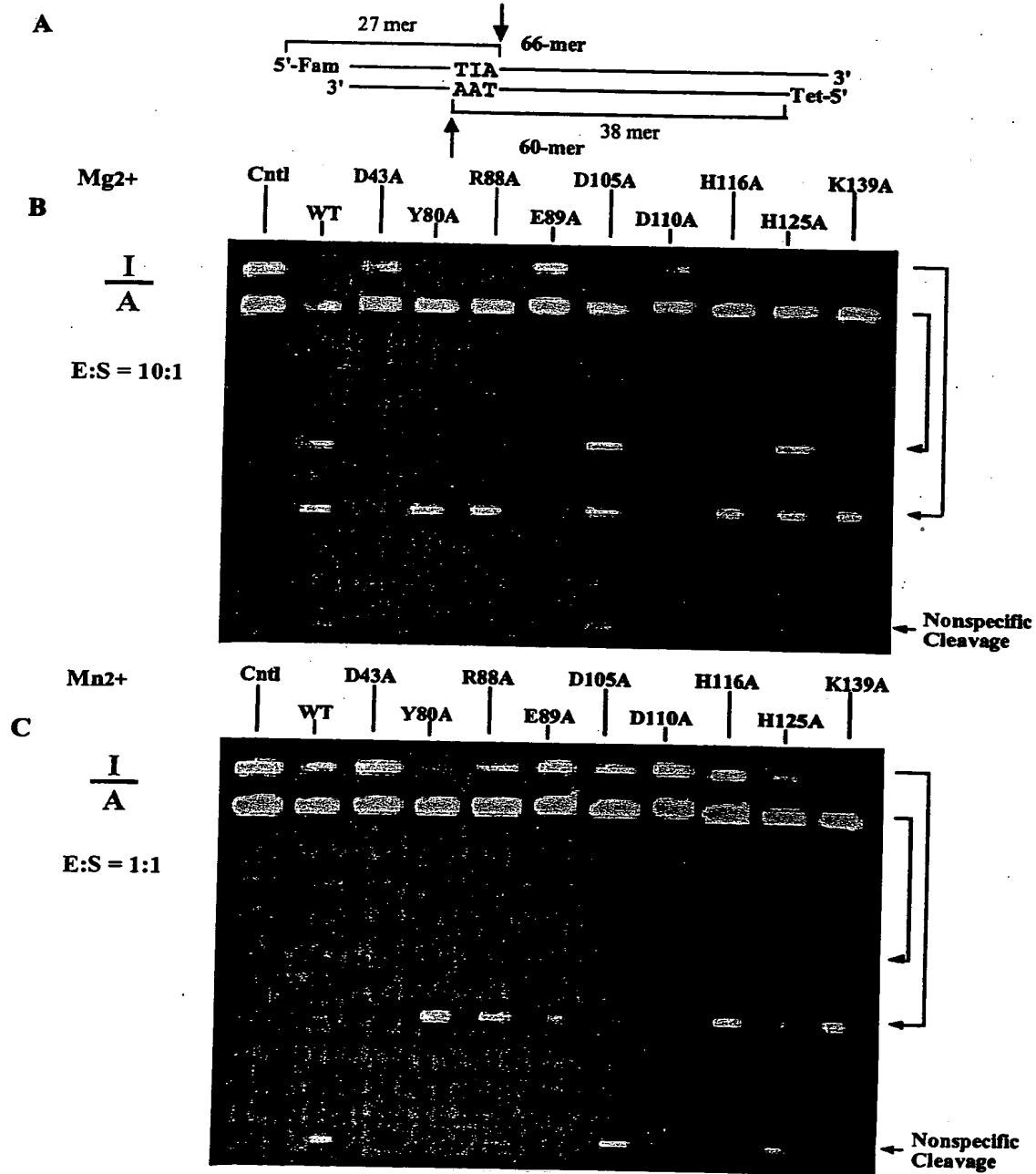


Figure 21

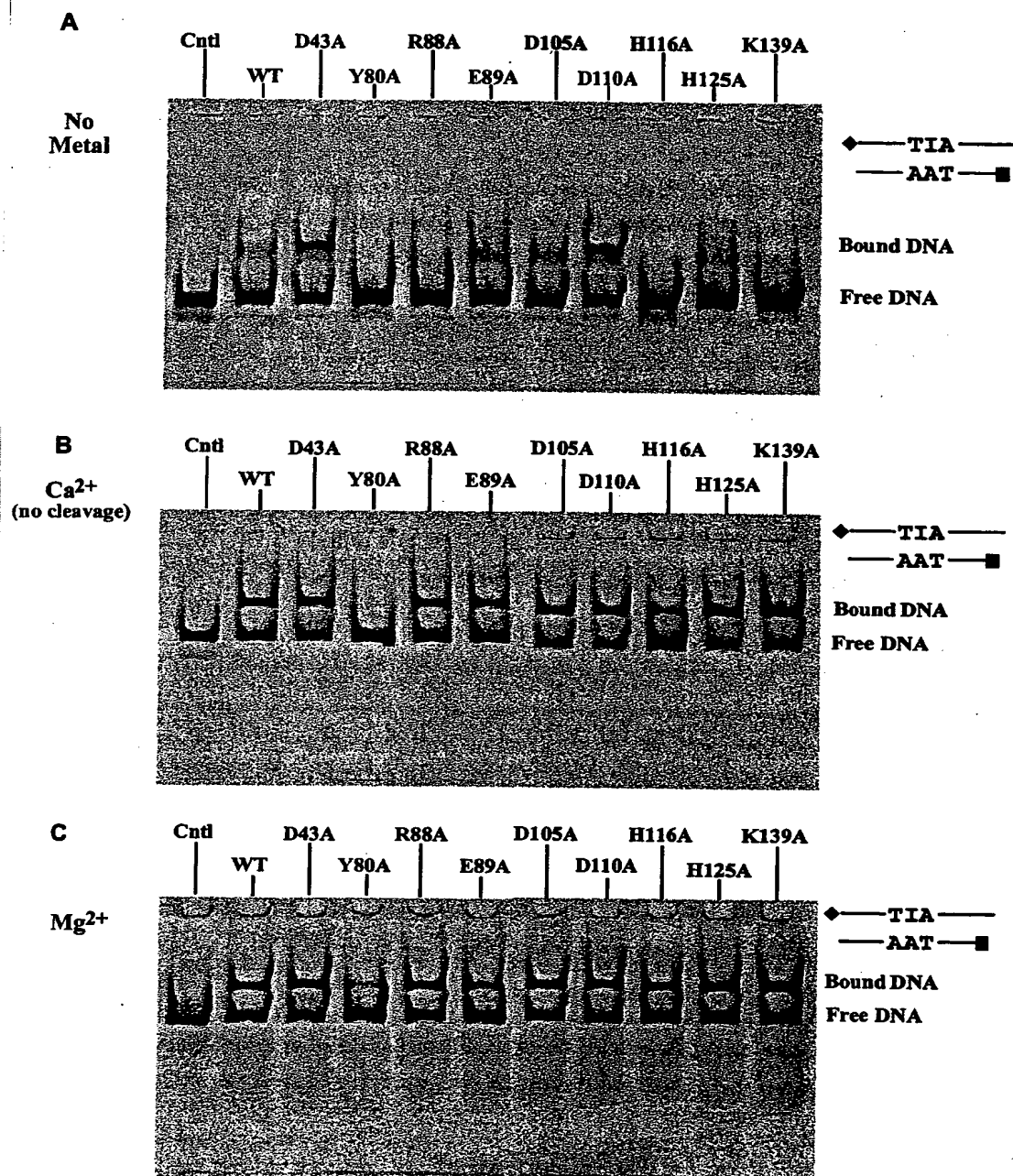


Figure 22

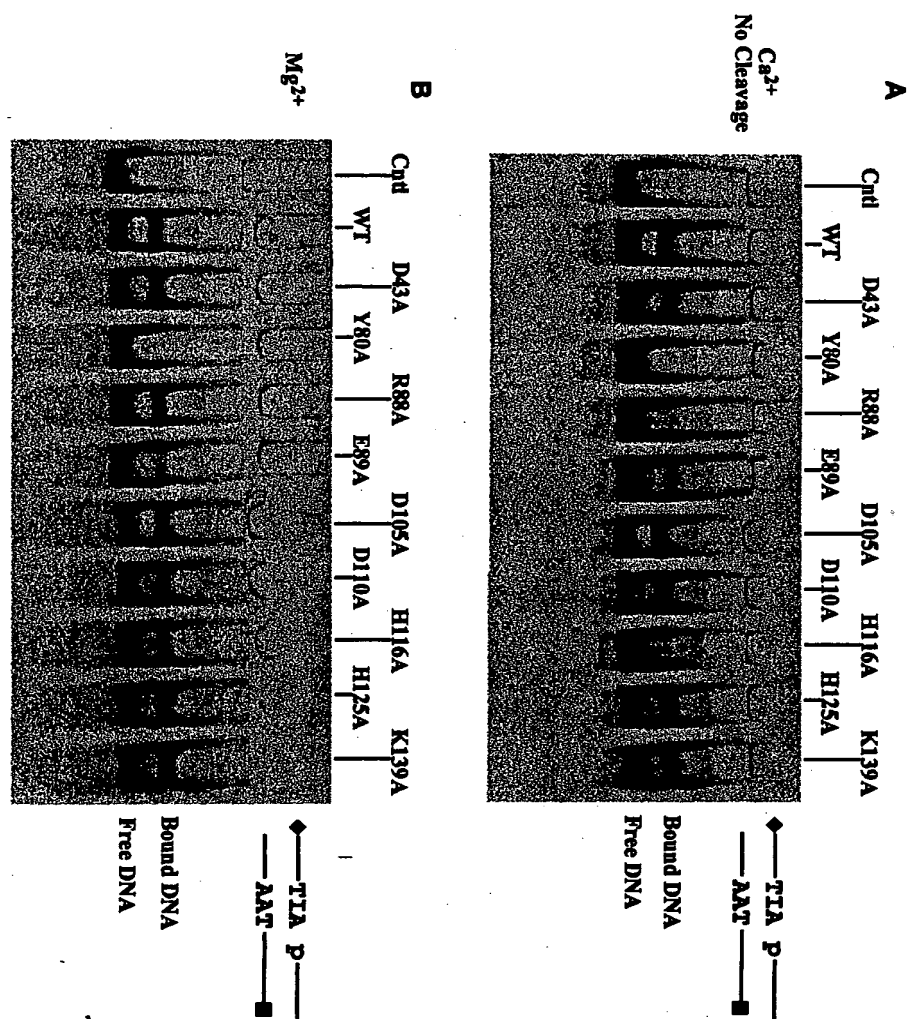


Figure 23

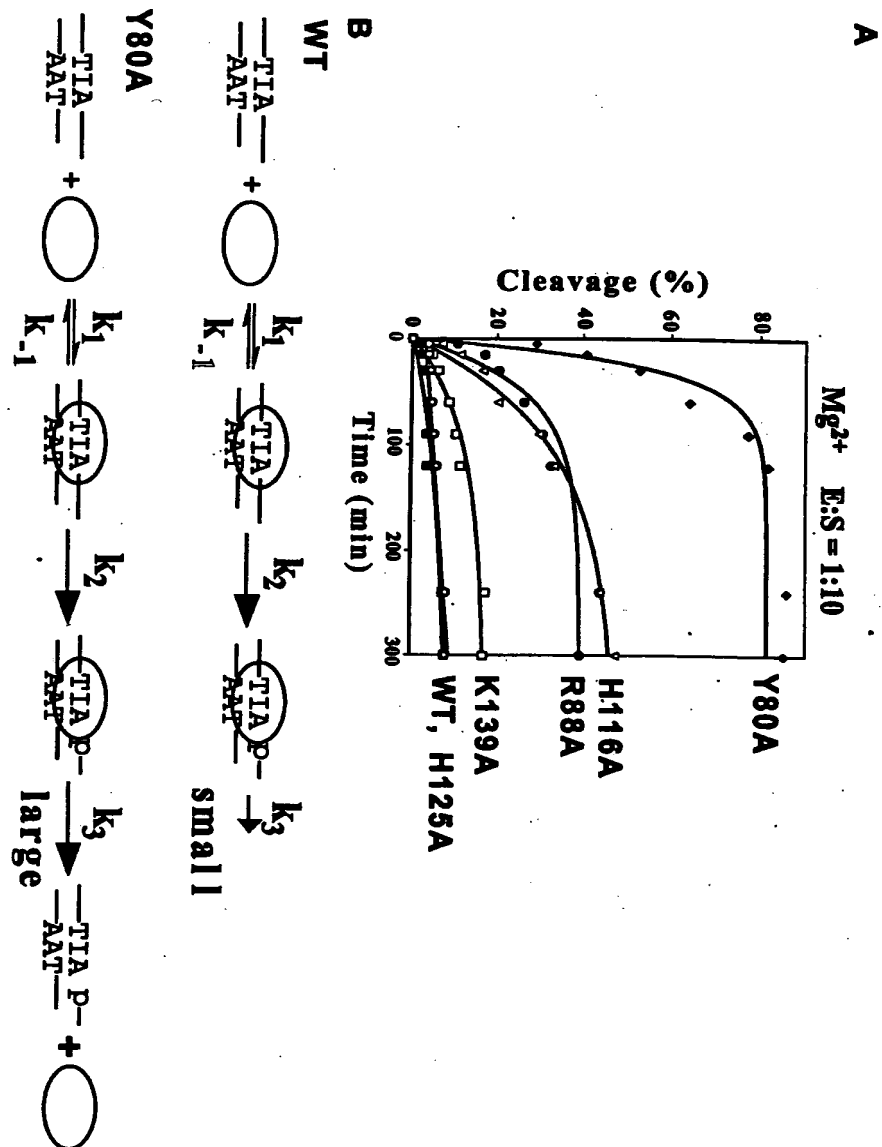


Figure 24

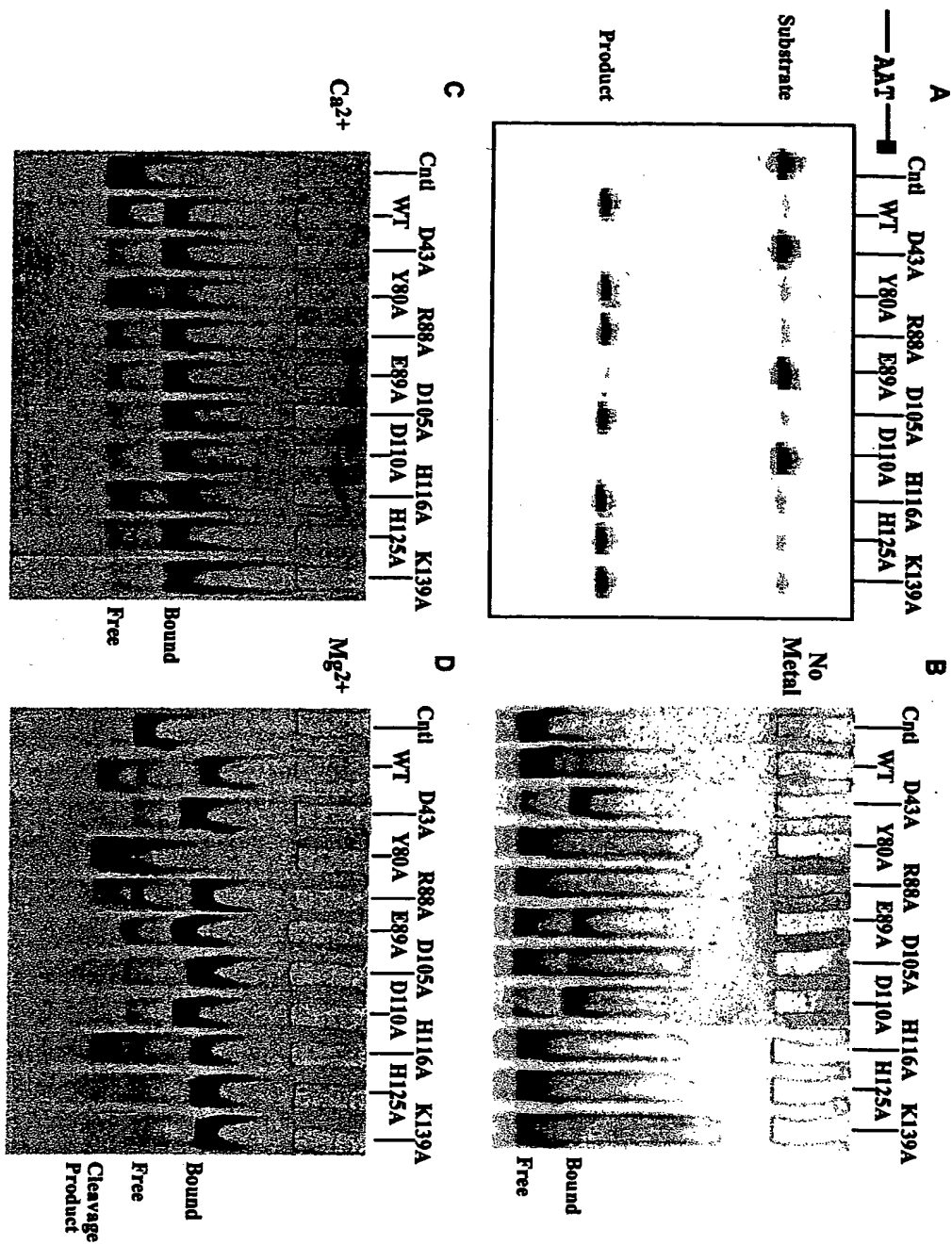


Figure 25

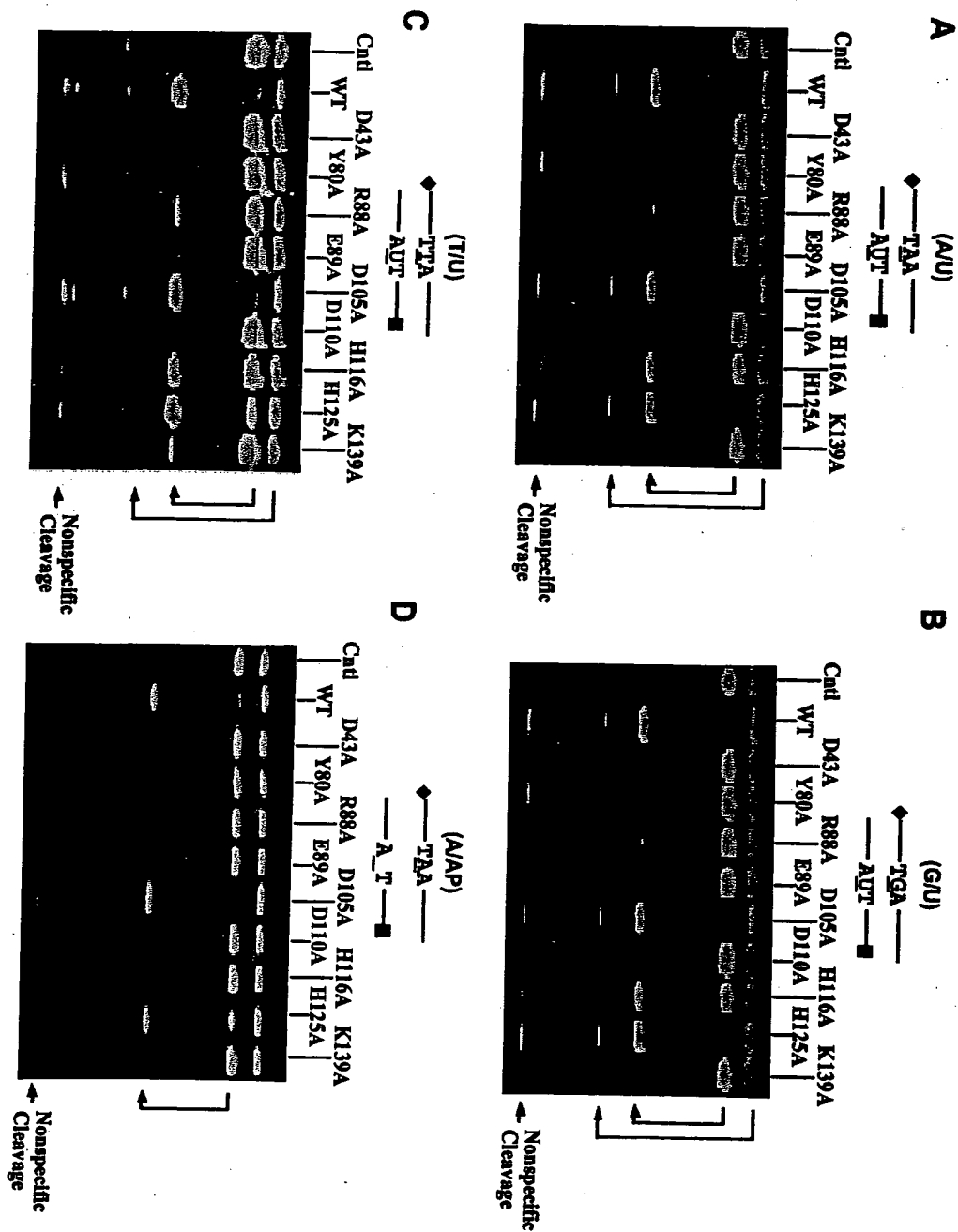


Figure 26